

AMENDMENTS TO THE CLAIMS:

The following is a complete listing of the claims.

1.-22. (canceled)

23. (new) A process for covalently binding a tagged protein to a polymer particle, the process comprising:

providing a tagged protein;

contacting the tagged protein with a conjugate of a chelating agent and a polymer particle to form a protein-polymer particle-chelating agent metal ion complex; and

contacting the complex with a carbodiimide to form a covalently bound protein;

wherein:

the tag comprises at least two histidine residues;

the tag comprises at least two lysine residues;

the chelating agent is tridentate, tetradentate, or pentadentate;

the chelating agent comprises at least two carboxyl groups; and

the chelating agent is coordinated by a metal ion.

24. (new) The process of claim 23, further comprising removing the metal ion from the covalently bound protein.

25. (new) The process of claim 23, wherein the tagged protein is a HAT-tagged protein.

26. (new) The process of claim 23, wherein the carbodiimide is dicyclohexylcarbodiimide, N-(3-dimethylaminopropyl)-N'-ethylcarbodiimide (EDC), or a salt thereof.

27. (new) The process of claim 23, wherein the chelating agent comprises three carboxyl groups.

28. (new) The process of claim 23, wherein the chelating agent is tetradentate.

29. (new) The process of claim 23, wherein the chelating agent is iminodiacetic acid, nitrilotriacetic acid, tris(carboxymethylethylene diamine or carboxymethylated aspartate (Cm-Asp).

30. (new) The process of claim 23, wherein the polymer particle is magnetic.

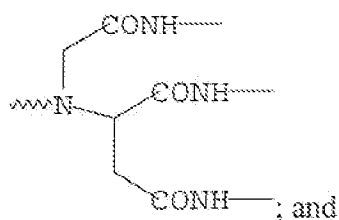
31. (new) The process of claim 23, wherein the polymer particle is porous.

32. (new) The process of claim 23, wherein the polymer particle has a diameter of about 0.2 microns to about 1.5 microns.

33. (new) The process of claim 23, wherein the metal ion is a transition metal ion.
34. (new) The process of claim 23, wherein the metal ion has a 2+ oxidation state.
34. (new) The process of claim 23, wherein the metal ion is Co^{2+} .
35. (new) A covalently bound protein obtained by the process of claim 23.
36. (new) A protein bound to a polymer particle having the structure:

Polymer particle - linker - protein; wherein:

the linker comprises the structure:



- the protein comprises a tag sequence comprising at least two histidine residues and at least two lysine residues.
37. (new) A protein covalently bound to a magnetic polymer particle, wherein:
- the protein comprises a tag sequence;
- the tag sequence comprises at least two histidine residues and at least two lysine residues;
- the magnetic polymer particle comprises a linking group; and
- the linking group is covalently bound to at least one of the at least two lysine residues via amide linkages.
38. (new) A plurality of particles of claim 37, wherein the plurality of particles are monodisperse.